

9. THE RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

The proposed project would occupy about 3 acres of the Greenidge Station site and consume resources (either individually or as part of the power plant) including coal, No. 2 fuel oil, lime, ammonia, powdered activated carbon, and water. The proposed project (either individually or as part of the power plant) would generate liquid effluents and solid wastes (unless all of the fly ash were sold). Except for NH₃ emissions, air emissions would be unaffected or reduced.

The long-term benefit of the proposed project would be to demonstrate environmentally sound and innovative technologies for the utilization of coal. The project would integrate a single-bed selective catalytic reduction (SCR) system for NO_x control and a circulating dry scrubber (CDS) for SO₂, Hg, HCl, HF, and SO₃ control. By reducing SO₃ emissions, the CDS would also minimize visible emissions from the stack. This pollution control system is particularly suited for retrofitting smaller (<300 MW) coal-fired boilers that could be vulnerable to retirement or fuel switching under current environmental regulations.

The goals of the proposed demonstration include both improved cost-competitiveness with current technologies (particularly for SO₂, NO_x, and Hg control on smaller coal-fired units) and greatly reduced Hg, SO₃, and fine particulate emissions compared to conventional technologies. The following emissions targets have been established for the integrated technologies compared with uncontrolled emissions: a 95% reduction in emissions of SO₂, SO₃, HCl, and HF, a 60% to 90% reduction in Hg emissions, NO_x emissions of less than 0.122 lb/MMBtu, and no visible emissions from the stack.

The design size for the proposed project was selected to establish performance results at a scale that would convince utilities that the integrated technologies, once demonstrated at this scale, could be commercialized using similar sized or larger applications without further scale-up to verify operational or economic performance. Therefore, although the proposed project would consume resources and generate effluents and solid wastes, the project would demonstrate integrated technologies that, once commercialized, would generally reduce air emissions both domestically and abroad compared with conventional coal technologies.

